

Part II
RESPONSIVENESS SUMMARY FOR ORIGINAL PROPOSED PLAN

Members of the public should note that the responses in Part II, in particular those that address technical and regulatory issues, have been written based on the information available at the time the original Proposed Plan was issued.

1. Pit 9 Interim Action Purpose

1.1 *Comment:* Some commenters sought an explanation of the basis for changing Pit 9's designation in the FFA/CO as a "Track 2" process demonstration to an "interim action" and asked why the public was not informed of the change during the public comment period. These commenters also asked why the interim action was following a Track 2 schedule and how this schedule could be implemented and still meet requirements for design, construction, and pilot operation of a TRU waste handling facility. Other commenters suggested the action should be renamed a "technology demonstration" or "remediation test" instead of an interim action to avoid misleading the public.

Response: There has not been a change in the classification of the Pit 9 action from a Track 2 to an interim action. The Pit 9 interim action is also not following a Track 2 schedule. The final FFA/CO, dated December 9, 1991, identifies the Pit 9 as the Pit 9 Process Demonstration interim action (Table A.1, pg. A-4; Table A.2, pg. A-22). The Action Plan also describes the planning process for an interim action (Action Plan Section 2.5, pg. 8) and indicates that an interim action can be initiated any time the data provide sufficient justification and the three agency Project Managers agree that early action is appropriate. In addition, the FFA/CO defines an interim action (consistent with how it is defined in the NCP) as "any early action taken in an OU to achieve significant risk reduction quickly, or to expedite completion of total site cleanup, and which should not be inconsistent with nor preclude the implementation of the final remedy." The Agencies determined that an interim action is warranted for Pit 9 based on the *Preliminary Risk Evaluation for Pit 9*, which indicates a potential for migration of hazardous substances to the environment and groundwater, as well as to expedite overall cleanup at WAG 7. This determination was subject to a 60-day public review and comment period during the late summer of 1991. While the selected technology for the interim action has not been proven at Pit 9, it is a technology that has been proven on similar materials with success. This technology will be employed for the interim action after its feasibility has been demonstrated during the POP and LPT phases. The three agencies expect that the results of this interim action will be consistent with and support other planned, future remedial actions at WAG 7.

1.2 *Comment:* Some commenters wanted assurance that any uncertainties associated with the risk assessment were quantified and asked whether there would be significant differences between the estimated risks before and after the proposed alternative action. There will be risks associated with the processing and subsequent disposal of materials from Pit 9; is the difference in the risks before and after implementing the preferred alternative worth the immediate costs of processing? Other commenters asked whether DOE was allowing the creation of a health and environmental problem relative to the storage of waste and providing no reasonable solution.

Response: The *Preliminary Risk Evaluation for Pit 9* indicates the potential for adverse health effects from Pit 9. The *Pit 9 Residual Risk Assessment* shows cancer risks from the surface pathway following implementation of the preferred alternative would be below the target risk range listed in the NCP of 1 additional cancer per ten thousand to 1 additional cancer per one million for a resident living at the edge of Pit 9.

Risks associated with implementing Alternative 4 will be evaluated in a Safety Analysis Report. This evaluation will provide the basis for engineering design requirements that must be taken to minimize risks to workers, public, and the environment. The Agencies have evaluated the information in the Administrative Record and have determined this interim action is worth the cost of implementing the preferred alternative.

This interim action provides a reasonable solution to the problem of how to address TRU wastes buried in the SDA. This interim action is being conducted to remove the source of contamination to levels that are protective of human health and the environment, to expedite the overall cleanup at the RWMC, and

to reduce the risks associated with potential migration of Pit 9 wastes to the Snake River Plain Aquifer. The Agencies believe Alternative 4 is a reasonable solution to the environmental risks posed by the contaminants in Pit 9. To ensure that the Pit 9 interim action is successful in reducing risk to levels that are protective of human health and the environment, residual contamination will be reevaluated in the baseline risk assessment to be performed as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

1.3 *Comment:* Concern was expressed whether the remediation activities at Pit 9 will be inconsistent with or preclude implementation of other WAG 7 remedial actions, such as the vadose zone or the expected final remedy at WAG 7, and whether the expected final remedy has been identified.

Response: By definition, an interim action must not be inconsistent with or preclude implementation of a final remedy. Future planned remedial activities at the INEL SDA will be addressed in the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS and the Comprehensive WAG 7 OU 7-14 RI/FS. Future cleanup activities concerning final remediation at WAG 7 have not yet been planned. However, the three agencies expect that the Pit 9 interim action will be consistent with these other planned, future WAG 7 remedial actions.

1.4 *Comment:* Commenters inquired whether an EIS, EA, or RI/FS will be developed for the Pit 9 or the WAG 7 cleanup. If none will be prepared, how will the checks and balances (e.g., comments by affected governments/agencies including the Shoshone-Bannock Tribes), normally provided by these documents, be furnished? One commenter felt that the schedule for the interim action should allow for preparation of an EIS. However, given that the schedule does not include preparation of an EIS, what other process will be used to determine the net benefits from the proposed action? The commenter also felt that a FONSI could not be defended without providing more information.

Response: The FFA/CO is governed by the CERCLA statute and EPA's NCP regulations. The Agreement itself, as well as the process established by these statutory and regulatory requirements, includes extensive checks and balances to ensure involvement by EPA, the State, and other potentially affected governments such as the Shoshone-Bannock Tribe. These checks and balances are accomplished during interim actions as well as during the detailed RI/FS process, by seeking input from other agencies, governments and interested members of the public and by complying with federal and state ARARs, which may also involve consultations and coordinations with these other agencies. Pit 9 is included in WAG 7, and initial scoping for the Comprehensive WAG 7 OU 7-14 RI/FS is scheduled for FY 1996, with actual implementation following in the FY-97 through FY-98 timeframe. Thus, these checks and balances exist at this time for the Pit 9 interim action and will be observed again later in the context of the Comprehensive WAG 7 OU 7-14 RI/FS process. Interim actions taken pursuant to the NCP and the FFA/CO must evaluate and comply with substantive ARARs to the extent practicable within the context of the interim action, recognizing that the RI/FS which follows must also demonstrate compliance with all ARARs (or invoke an ARARs waiver).

NEPA contains values which mirror many of the considerations that the NCP process evaluates through ARARs, the nine CERCLA evaluation criteria, and other steps in the RI/FS process. DOE has issued a policy which requires integration of NEPA values into the CERCLA decision process where practicable, particularly with regard to socioeconomic, ecological, and cumulative impact considerations. In many cases, this results in additional discussions being included in Proposed Plans, RI/FS reports, and RODs. In other cases, supplemental information addressing NEPA values may be prepared. This approach is needed to achieve the CERCLA mandate for expeditious and prompt cleanups and to allow flexibility in formulating the response to be taken at different operable units. DOE also provides these documents to the appropriate State, EPA, and Shoshone-Bannock representatives that are responsible for NEPA reviews at their respective Agencies. The public comment required by CERCLA and the NCP is considered to be equal to that which NEPA would otherwise provide, and DOE factors all comments received during public comment periods into its evaluation of the proposed action. These comments are included in the responsiveness summaries that are prepared jointly with EPA and the State.

Pursuant to DOE's NEPA/CERCLA integration policy, an EA level of NEPA review was applied to the Pit 9 interim action. Based on that review, DOE concluded that an EIS was not necessary for the Pit 9 interim action, and a FONSI was prepared and issued.

1.5 *Comment:* Several commenters expressed the opinion that corrective action at Pit 9 should be delayed to allow for further research and technology development. A delay would provide a final solution to the problems at Pit 9 instead of just an interim solution. Further, a delay would allow for more time to obtain additional characterization data that would result in a more accurate RI/FS. These commenters also observed that there is no imminent or substantial danger to public health or the environment from continued storage of the buried waste in Pit 9 for another 10 years.

Response: The NCP balances the need for prompt, early actions to implement protective measures against the need for a detailed, definitive site risk characterization and analysis of alternative remedial approaches for addressing these risks (in an RI/FS), in order to assure that CERCLA sites are addressed in an expeditious manner as mandated by Congress. This is now incorporated in the "bias for action" approach reflected in the revised NCP (55 FR 8704, March 8, 1990). Early actions should be initiated where appropriate and sites should be remediated in phases using operable units to eliminate, reduce, or control hazards posed by a site or to expedite the completion of total site cleanup. Interim actions often involve only a few alternatives, or perhaps only one, and a completed baseline risk assessment is generally not available or necessary. However, qualitative risk information is organized to demonstrate the action is needed to stabilize the site, prevent further degradation, or achieve significant risk reduction quickly and thus ultimately support and expedite the eventual total site cleanup. The interim action remedy at Pit 9 was designed with these goals in mind and will help stabilize the site and prevent further degradation. Thus, it will assist the Agencies with the eventual Comprehensive WAG 7 OU 7-14 RI/FS and remedy selection process. Information obtained during the Pit 9 interim action will be used to further actions at other OUs within WAG 7 as well as support the accuracy of the Comprehensive WAG 7 OU 7-14 RI/FS. The Agencies have determined that sufficient information exists to justify an interim action at Pit 9, and that the short-term actions will help stabilize the unit and contribute to overall risk reduction and site cleanup.

1.6 *Comment:* What is the relationship between the purpose of this interim action and obtaining private sector participation in ER&WM programs as stated in the revised specifications for the cleanup project at Pit 9? Commenters expressed concern that since proposals for the chemical extraction/physical separation alternative have already been solicited by EG&G Idaho, the relevance of the public meeting and the public comment period appears questionable. They questioned why the public should believe that their comments could influence the Agencies to reevaluate the alternatives.

Response: The POP and LPT test phases are to be performed within the interim action for Pit 9 to prove the reliability, cost effectiveness, and ability to meet cleanup criteria for the subcontractor processes that are part of the preferred alternative. The full scale remediation phase of the interim action is contingent on the successful demonstration of these techniques. DOE determined that solicitation of private sector participation in the remediation of Pit 9 concurrent with preparation of the ROD would support an accelerated cleanup schedule. In addition, the RFP did not specify any particular treatment technology that must be used.

In the NCP, EPA expresses its expectation that principal threats posed by a site should be treated wherever practicable and that any treatment as part of CERCLA remedies should achieve reductions of approximately 90 to 99% in the concentration or mobility of individual contaminants of concern. In order to achieve these percentage reductions, the treatment technology is expected to involve well-designed and well-operated systems and may involve application of a single technology or a combination of technologies. In the NCP, EPA encourages treatability testing of innovative technologies and expects that the examination of such technologies will be initiated early and carried through to the detailed analysis stage [40 CFR §300.430(a)(1)(iii)(E)]. The POP and LPT fulfill these expectations and are designed to demonstrate that they are technically feasible, implementable, cost effective, and reliable for purposes of the full-scale Pit 9 remediation. If these treatability tests do not successfully make these demonstrations, the Agencies may issue an Explanation of Significant Differences (ESD), a ROD amendment, or choose to reevaluate Pit 9 for cleanup in the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

The Agencies have reevaluated the alternatives based on public comments and have selected Alternative 4 as the remedial alternative for the Pit 9 interim action. The private sector solicitation initiated by DOE will support an acceleration of the cleanup schedule.

1.7 **Comment:** A commenter indicated that basic important information needed to evaluate the risks of different cleanup plans had been requested at the scoping meetings for the ER&WM PEIS and that it would be illegal and dangerous to proceed with Pit 9 cleanup before the ROD for the ER&WM PEIS is issued.

Response: The Pit 9 interim action may proceed prior to issuance of the ROD for the PEIS or for the DOE Headquarters PEIS or for the INEL ER&WM EIS. The Pit 9 interim action is governed by the CERCLA process and is subject to enforceable deadlines and milestones, as published by the FFA/CO. That process includes meeting the substantive requirements of federal and state laws and regulations. DOE has adopted a policy for integrating NEPA into the CERCLA decision and documentation process. That policy also discusses PEISs and site-specific EISs, such as the INEL ER&WM EIS, and indicates that the timing of these documents may not necessarily coincide with each other or with the project-specific integrated NEPA/CERCLA documents being developed under cleanup agreements. This does not prevent the project specific actions from going forward. Where possible, the EISs will set the stage and the framework for the actual cleanup activities being conducted; however, more detailed information may not be available until the project specific integrated NEPA/CERCLA documents are actually prepared. NEPA itself allows certain actions to proceed while an EIS is pending, as long as the action will not adversely affect the environment or limit the choice of reasonable alternatives in the pending EIS, and is separately justified and covered by its own NEPA documentation (40 CFR §1506.1). This occurs through the CERCLA decision process, which provides the criteria to ensure that the environment is not adversely affected. The DOE policy ensures that NEPA values are taken into consideration during this process. Public comments requesting information at scoping meetings for either of these EISs will be responded to in the context of these two NEPA EIS processes to better enable members of the public to evaluate the information and discussions that will be published in the forthcoming Draft EISs.

2. Pit 9 Characterization

2.1 **Comment:** Why was Pit 9 selected for this action instead of another waste pit or trench at RWMC?

Response: Pit 9 was selected for interim action because a more complete set of disposal records exists than is otherwise available for other TRU-contaminated pits and trenches located at the SDA (at RWMC). The information contained in those records characterizes the types and amounts of contaminants of concern essential to supporting a determination of risk. In addition, Pit 9 is representative of the other TRU-contaminated pits and trenches at the RWMC and experience gained during the Pit 9 interim action may be applied to these other areas. Pit 9 was also considered to be a preferable location at the RWMC in that it is somewhat isolated from the other pits and trenches.

2.2 **Comment:** How were the boundaries of Pit 9 determined?

Response: The boundaries of Pit 9 as described in the original Proposed Plan are the actual boundaries of the excavated pit as marked on the ground by metal stakes. Research concerning these boundaries was conducted by reviewing historical records, aerial photos, personnel interviews, and field surveys. The boundaries have been verified for accuracy through additional field surveys and use of noninvasive site characterization technologies (i.e., geophysical techniques).

2.3 **Comment:** How accurate are the inventory records concerning the contaminants that have been buried in Pit 9?

Response: The Pit 9 records are actual documents on shipment and receipt of wastes at Pit 9 for the period the pit was open to receive waste. The records give DOE a relatively high degree of confidence in the types and amounts of various contaminants within the pit.

2.4 **Comment:** DOE urgently needs the help of a professional historian to update the INEL archives for the pre-1970 period by conducting interviews with current and retired employees.

Response: Comment noted.

2.5 **Comment:** A commenter stated that at one time it was indicated that plutonium was the focus of concern at Pit 9. The Administrative Record now states that americium accounts for 92% of the risk.

What caused this change in the interpretation and should further significant changes be expected as the site is characterized?

Response: There have been no changes in characterization of Pit 9. The large mass of plutonium in the pit is a major concern. Americium is a daughter product of the decay of plutonium. DOE records indicate that Pit 9 contains approximately 44 pounds of plutonium and 1.5 pounds of americium. Even though there is less americium than plutonium, americium contributes 92% of the risk to a site worker, in the hypothetical scenario, as described in the *Preliminary Risk Evaluation for Pit 9* because it emits gamma radiation. Plutonium emits alpha radiation. The *Preliminary Risk Evaluation for Pit 9* indicates that highest cancer risk is attributable to americium and the accompanying external exposure to gamma radiation.

3. Pit 9 Materials Disposal

3.1 **Comment:** Where will TRU and high-level radioactive wastes recovered from Pit 9 be sent for final disposal?

Response: We do not expect to encounter any high-level radioactive waste in Pit 9. The ultimate disposal facility for TRU isotopes and high-level radioactive waste (if encountered) collected under this interim action will be identified in either the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS or the Comprehensive WAG 7 OU 7-14 RI/FS. At the current time, such a facility has not yet been identified.

3.2 **Comment:** When will a disposal facility be ready for wastes removed by Alternatives 4 and 5?

Response: This is an interim action. It will be necessary to identify the ultimate disposal facility for collected and stored Pit 9 concentrated waste residuals in the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS or the Comprehensive WAG 7 OU 7-14 RI/FS. We anticipate that appropriate disposal facilities will be available for this waste at that time. However, at the current time, such a facility or facilities have not yet been identified.

3.3 **Comment:** What treatment and disposal requirements will be applied to high-level radioactive wastes recovered from Pit 9?

Response: We do not expect to encounter high-level radioactive wastes in Pit 9. The ultimate disposal facility for TRU isotopes and high level radioactive waste (if encountered) collected under this interim action will be identified in either the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS or the Comprehensive WAG 7 OU 7-14 RI/FS.

3.4 **Comment:** The proposal for reburial of plutonium in Pit 9 that has less than 10 nCi/g TRU is not safe. Due to potential of the long-term threat of contamination of the aquifer, cleanup should remove all contaminants, not just that above 10 nCi/g TRU.

Response: Transport modeling was conducted for the ≤ 10 nCi/g TRU residuals that will be left in or returned to Pit 9 after remediation to evaluate potential contaminant migration to the aquifer. This modeling indicates that the Safe Drinking Water Act standard for gross alpha of 15 pCi/L will not be exceeded if a 0.6 (2 ft) layer of clean soil with a linear sorption coefficient (K_d) of at least 500 mL/g is added to the bottom of the pit and if the pit is backfilled to grade with clean INEL soil. The transport modeling is described in Engineering Design File RWMC-92-005, "GWSCREEN Modeling for the Pit 9 Project - Sensitivity to K_d in the Source and Attenuation Layer," and is included in the Administrative Record.

3.5 **Comment:** A commenter requested documentation concerning what regulations, orders, or documents would prevent the reburial of all the radioactive waste from Pit 9 once it is isolated. The commenter requested clarification as to whether the weight of the barrel or cement used in grouting would be included in the determination of the suitability for waste reburial (e.g., is it low-level waste). What prevents the "creative packaging" of the waste (e.g., partially filling a drum with waste until the 10 nCi/g TRU standard is approached) to meet the 10 nCi/g TRU disposal limit for the RWMC?

Response: Pursuant to RCRA 40 CFR §268.3, it is illegal to dilute a restricted waste or the residual from treatment of a restricted waste as a substitute for adequate treatment to achieve compliance with disposal standards under RCRA. There will be continuous oversight of the remedial subcontractor. The

oversight of the cleanup subcontractor will be performed by DOE, IDHW and EPA in accordance with terms of a cleanup work plan that will be reviewed by the agencies prior to the start of the cleanup. Oversight will consist of surveillance and audits to ensure that noncontaminated soils and materials are not mixed with contaminated waste in order to achieve the 10 nCi/g TRU criteria to return the material to the pit.

3.6 *Comment:* Will any of the Pit 9 waste be eligible for reburial at Waste Isolation Pilot Plant (WIPP)?

Response: The Waste Acceptance Criteria for WIPP currently prohibits acceptance for disposal any TRU wastes that have been previously buried. Materials collected during the Pit 9 interim action will therefore not meet WIPP disposal criteria and would not be accepted for disposal without altering the WIPP Waste Acceptance Criteria.

3.7 *Comment:* Have agreements been obtained from potential final disposal facilities, local communities, and states for the disposal of Pit 9 waste? How are other facilities, local communities, and states being involved in the decision process for the proposed Pit 9 interim action?

Response: The final disposition of concentrated waste materials from the Pit 9 interim action has not yet been established. Consequently, no agreements have been obtained from potential final disposal facilities, local communities, or states for disposal of Pit 9 waste. Those issues will be addressed under the ROD for the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS. The Agencies published notices soliciting public comments for the Pit 9 interim action. Any comments received from other communities or states would also be considered and included in the Administrative Record.

3.8 *Comment:* For any federally owned disposal facilities that have been identified to receive Pit 9 waste, explain how the NEPA documentation for such facilities has addressed disposal of Pit 9 wastes.

Response: No federally owned disposal facilities have been identified at this time for the ultimate disposition of concentrated waste materials from treatment of Pit 9 wastes; therefore, NEPA documentation has not yet been prepared.

3.9 *Comment:* Under the various alternatives, what materials would be returned to Pit 9 and why? Before materials containing listed waste residuals are returned to the Pit, what are the applicable legal requirements and/or volume restrictions that must be met? Does replacement of materials into the Pit mean that the Pit becomes a RCRA disposal site and is subject to the requirements of 40 CFR §264.300 [requiring a double liner, engineered cover, and monitoring]?

Response: At the time the original Proposed Plan was issued, the only alternatives that involved return of material to the pit were Alternatives 3 and 4. However, proposed changes to the alternatives were published in the revised Proposed Plan, which resulted in only Alternative 4 involving return of material to the pit. Under this alternative, the materials will consist of treated waste residual containing ≤ 10 nCi/g TRU. The reason this material is being returned is that it has first been treated to levels that are considered by the Agencies to meet legal requirements and be protective for purposes of this limited interim action. Wastes and/or materials in Pit 9 that contain > 10 nCi/g TRU concentrations would be treated to reduce the volume by approximately 90% before being returned to the pit. In addition, treated waste residuals must be sampled to verify that risk-based delisting levels have been achieved and that the residuals do not exhibit hazardous waste characteristics. Wastes that meet delisting levels and characteristic hazardous waste standards exit the RCRA hazardous waste management system, and LDRs and RCRA Subtitle C requirements are no longer applicable. Because RCRA Subtitle C requirements are no longer applicable, these treatment residuals could be managed as solid wastes under RCRA Subtitle D. However, certain RCRA closure requirements in 40 CFR 264 Subpart N are considered to be relevant and appropriate with respect to the untreated waste materials remaining in the pit. Since Pit 9 will be closed in accordance with the relevant and appropriate requirements of 40 CFR §264.310, the treated residual being returned to the pit (that contains ≤ 10 nCi/g TRU and has met delisting and characteristic hazardous waste standards) would also be managed in accordance with these closure standards. This closure will consist of a 0.6 m (2 ft) layer of clean soil with a linear sorption coefficient (K_d) of at least 500 mL/g lining or equivalent barrier in the bottom of the pit. The pit would also be backfilled to surface with clean RWMC soil.

3.10 *Comment:* One commenter referenced the proposed NCP preamble discussion (53 FR 51444) of when "placement" occurs for purposes of triggering RCRA's LDR. The commenter asked for an explanation of the basis for the 10 nCi/g TRU level of treatment in terms of BDAT. Alternatively, this commenter asked the Agencies to explain the technological basis for granting a treatability variance for the TRU-contaminated Pit 9 waste.

Response: The NCP (55 FR 8758-8762, March 8, 1990) contains EPA's response to public comments on the applicability, or the relevance and appropriateness, of the LDR standards to a CERCLA remedial action. This discussion first notes that before RCRA is applicable, there must be a listed or characteristic RCRA hazardous waste and the occurrence of either treatment, storage, or disposal (TSD) activity after the effective date of the particular RCRA requirement under consideration. Pit 9 wastes were disposed prior to 1980. Waste materials containing ≤ 10 nCi/g TRU will not be removed from the pit; thus, no treatment, storage, or disposal activity will occur with respect to these materials. Waste materials containing > 10 nCi/g TRU, along with RCRA listed and characteristic hazardous wastes, will be removed from the pit and undergo treatment. This waste material is potentially subject to RCRA Subtitle C and LDR requirements.

To date, EPA has specified the use of specific treatment technologies or numerical standards for four subcategories of characteristic wastes: toxicity characteristic leachate procedure (TCLP) pesticides, reactive sulfides, reactive cyanides, and ignitable liquid nonwastewater wastes. None of these types of characteristic wastes have been identified in the Pit 9 wastes. For all other characteristic wastes, including those in Pit 9, demonstrating that the waste is no longer characteristic (i.e., the waste no longer exhibits any of the characteristics outlined in 40 CFR Part 261 Subpart C) complies with LDR requirements.

The residuals resulting from the treatment process would still be defined as listed wastes under RCRA. However, delisting is an alternative compliance option for meeting LDR requirements. Delisting requires a demonstration that the wastes meet risk-based levels and no longer present a threat to the public or the environment (40 CFR §§260.20, .22). In addition, the wastes would be treated to meet characteristic hazardous waste standards in accordance with 40 CFR 261 Subpart C. Treatment residuals to be managed onsite as part of the Pit 9 interim action that are treated to the delisting levels specified in the Pit 9 ROD will be delisted. The results of the POP and LPT tests will be used to demonstrate the ability of the treatment processes to meet these treatment standards.

Wastes that meet delisting levels and characteristic hazardous waste standards exit the RCRA hazardous waste management system, and LDRs and RCRA Subtitle C requirements are no longer applicable. Because RCRA Subtitle C requirements are not ARARs, these treatment residuals could be managed as solid wastes under RCRA Subtitle D. However, certain RCRA closure requirements in 40 CFR 264 Subpart N are considered to be relevant and appropriate with respect to the untreated waste materials remaining in the pit. Since Pit 9 will be closed in accordance with the relevant and appropriate requirements of 40 CFR §264.310, the treated residual being returned to the pit (that contains ≤ 10 nCi/g TRU and has met delisting and characteristic hazardous waste standards) would also be managed in accordance with these closure standards.

At Pit 9, the 10 nCi/g TRU criterion for return of treated waste residual to the pit applies only to the radionuclides (i.e., americium and plutonium) in the waste stream, not to the hazardous components of the waste stream. The 10 nCi/g TRU level is designed to parallel the Nuclear Regulatory Commission requirements contained in 10 CFR Part 61 concerning the land disposal of radioactive waste. These regulations provide that stabilized TRU waste containing ≤ 10 nCi/g TRU may be safely disposed so long as institutional controls are maintained for 100 years over the final disposal site. However, the 10 nCi/g TRU is not a BDAT level, since BDAT only applies under RCRA to hazardous wastes that are also restricted from land disposal.

4. General Technical

4.1 *Comment:* Commenters expressed concern that additional time needs to be devoted to developing a more realistic Proposed Plan. Commenters noted that the original Proposed Plan suffers from numerous deficiencies including a lack of knowledge about the preferred alternative; waste and site characterization; expected effluent, processing wastes, end products; the incomplete and inaccurate summarizations of the

vitrification technologies; lack of cleanup criteria based on risk reduction rather than cleanup efficiency; and exaggerated, inaccurate, and unrealistic analysis of risks and alternatives.

Response: As more information concerning the preferred alternative (e.g., expected effluent, processing wastes, and end products) becomes available, it will be placed in the post-ROD file for the Pit 9 Interim Remedial Action and/or the Administrative Record for the TRU-Contaminated Pits & Trenches OU 7-13 RI/FS.

Pit 9 was selected for an interim action because a more complete set of disposal records exists than is otherwise available for alternative TRU-Contaminated Pits and Trenches at the RWMC SDA. The information in those records characterizes the types and amounts of contaminants of concern and is adequate to support this interim action.

For a future resident living next to Pit 9, the 10 nCi/g TRU criterion for materials left or returned to the pit is protective of human health and environment. The *Pit 9 Residual Risk Assessment*, which is in the Administrative Record, evaluated potential residual human health risks from 10 nCi/g TRU residuals left in the pit after the cleanup. Modeling of radionuclide transport to the Snake River Plain Aquifer indicated that radionuclides from Pit 9 are not expected to migrate to the aquifer during the evaluated time period of 1,000 years. The preliminary evaluation also indicated the highest risk to human health occurred after the 100-year institutional control period due to plants and burrowing animals providing a mechanism to move waste up to the surface. The preliminary evaluation indicated that cancer risks from the surface pathway were below the target risk range listed in the NCP of 1 additional cancer per ten thousand to 1 additional cancer per one million. These risks were calculated for a receptor living at the edge of Pit 9. The residual risk assessment assumed the pit would be backfilled with clean soil after remediation.

The summarization of the vitrification technologies meets the requirement for a Proposed Plan. Additional, detailed information concerning vitrification technologies has been placed in the information repositories to support the original Proposed Plan.

The *Preliminary Risk Evaluation for Pit 9* used actual records to determine the amount of waste disposed in Pit 9. The *Preliminary Risk Evaluation for Pit 9* used very conservative assumptions regarding waste distribution throughout Pit 9 and assumed a worker was in direct contact with the waste. As a result, the *Preliminary Risk Evaluation for Pit 9* overestimated the risk to RWMC worker health posed by Pit 9. The assumptions in the *Preliminary Risk Evaluation for Pit 9* do not reflect actual physical conditions at Pit 9 and was weighted on the side of safety to ensure that all potential risks were considered.

A report entitled *Evaluation of Remedial Alternatives for Pit 9 Interim Action* is in the Administrative Record. This report documents the evaluation of remedial alternatives for this interim action.

4.2 **Comment:** Should the requirement for "reduction in volume" be interpreted as "reduction in waste volume"?

Response: Yes, that is correct.

4.3 **Comment:** What are the criteria and procedures that will be used to establish that treated Pit 9 material can be delisted?

Response: Delisting applies only to listed wastes, mixtures containing listed wastes, or residuals derived from treatment of a listed waste. For onsite CERCLA remedial response actions, delisting of RCRA wastes is accomplished by meeting the substantive requirements of IDAPA 16.01.05004 (40 CFR §§260.20, .22). Delisting is a compliance option for meeting LDR requirements (*Superfund LDR Guide #1, Overview of RCRA Land Disposal Restrictions*, OSWER Pub. 9347.01FS, July 1989).

Under RCRA, once sufficient data are collected on the waste and its potential fate and transport, models are run to evaluate the dilution and attenuation of constituents at the hypothetical receptor well. The calculated concentrations of constituents must at least meet the health-based levels used for delisting decisions for the waste to be delisted. The health-based levels used for delisting listed in the ROD were developed consistent with 40 CFR §§260.20 and .22 and current EPA delisting guidance, such as *Guide to Delisting of RCRA Wastes for Superfund Remedial Responses* (OSWER Pub. 9347.3-09FS, September 1990).

4.4 *Comment:* What kind of contamination control will be used during the cleanup process? Is open air retrieval planned and, if so, how will contamination of workers and the surrounding area be prevented?

Response: Engineered containment will be in place for any retrieval efforts at Pit 9. No open air retrieval will be conducted.

4.5 *Comment:* If a criterion for cleanup is 90% removal of plutonium and americium from Pit 9, why were the in-situ and ex-situ vitrification processes considered? This criterion would appear to eliminate those technologies from the beginning.

Response: The criterion stated in the original Proposed Plan is wastes and/or materials in Pit 9 containing > 10 nCi/g TRU will be treated to reduce the volume by approximately 90% prior to returning (the treated materials) to the pit. In-situ and ex-situ vitrification technologies have been evaluated against all of the alternatives, based on CERCLA guidance for evaluating alternatives. It is a guideline in the preamble to the NCP (55 FR 8721) that reduction in volume of contaminants should be between 90 to 99%. The criterion of approximately 90% volume reduction of wastes/materials containing TRU only pertains to the technology proposed under Alternative 4, Chemical Extraction and/or Physical Separation.

4.6 *Comment:* In evaluating the proposed remedial technologies, why not base the definition of what constitutes cleanup on reduction in risk, not a 90% removal efficiency? After all, with only 90% removal, the 10% remaining in an untreated form in the soil would still be 1 in 250 risk for plutonium, and 1 in 30 risk for americium exposure.

Response: CERCLA establishes a preference for remedial actions which permanently and significantly reduce the volume, toxicity, or mobility of hazardous substances (CERCLA §121(b)(1)). The NCP has established as a guideline that treatment as part of CERCLA remedies should generally achieve reductions of 90 to 99% in the concentrations or mobility of individual contaminants of concern, although there will be situations where reductions outside the 90 to 99 percent range that achieve health-based or other site-specific remediation goals (corresponding to greater or lesser concentration reductions) will be appropriate (55 FR 8721, March 8, 1990). A 90% or greater removal efficiency thus provides the definition for the amount of cleanup which will satisfy the stated statutory preference. Cleanup which achieves this 90 to 99% reduction will also result in a significant reduction of risk. The Pit 9 Residual Risk Assessment, which is in the Administrative Record, demonstrates that the risk will be reduced to be below the target risk range identified in the NCP.

4.7 *Comment:* Has the potential benefit of stabilization in place been examined, both from a national level as well as a local level? To dispose of this material in another state only transfers the toxicity and mobility concerns to the state where it is disposed.

Response: Stabilization in place was evaluated for this interim action under Alternative 2, In-situ Vitrification. The agencies are not involved in a program to analyze stabilization in place on a national level; however, as part of the DOE-HQ ER&WM PEIS, various technologies and the need and potential locations for new or modified TSD facilities are being evaluated on a national level.

4.8 *Comment:* Has consideration been given to the possible presence of hazardous organics or metals that may be present in Pit 9 and will excavation of these materials from Pit 9 pose a risk to worker safety?

Response: The risks associated with implementation of the remedy will be quantified during the design stage through the DOE Safety Analysis and Review System (SARS). Under the SARS, analyses are performed to identify and assess the risk of potential hazards and to identify methods for eliminating or controlling the hazards. Hazards associated with aspects of the selected remedy would be reduced through the use of engineering controls including implementation of health and safety procedures and use of appropriate personal protective equipment. The interim action will be initiated only if it can be demonstrated the action presents no adverse health effects or unacceptable carcinogenic risks to workers or the public.

4.9 *Comment:* The criteria for evaluation of the alternatives account for only the increased risk associated with the interim solution. To conduct a complete evaluation of all of the alternatives, the risk

associated with the excavation of organics or hazardous materials, interim storage, treatment, transportation, and final storage should be included.

Response: The interim action is not designed to address the risks associated with the longer term actions involving final treatment, transportation, storage, and/or disposal of concentrated waste residuals from Pit 9. The TRU-Contaminated Pits and Trenches OU 7-13 RI/FS and the Comprehensive WAG 7 OU 7-14 RI/FS will address these issues and make recommendations for final actions. The appropriate level of analysis for an interim action as set forth by the NCP and EPA guidance has been applied to the Pit 9 interim action.

4.10 **Comment:** A commenter expressed concern that specific details have not been presented as to the proposed course of action to be taken at Pit 9.

Response: Pursuant to the original Proposed Plan, the preferred remedial alternative to be employed at Pit 9 will consist of one or more chemical extraction/physical separation technologies. Selection of the most effective technology(s) will be a function of the success demonstrated by the contractor as well as the history of their safe use. The Agencies believe that achievement of Pit 9 remediation goals can best be accomplished by allowing contractors the opportunity to choose from among the various candidate remediation technologies they know best.

5. Risk Assessment

5.1 **Comment:** Commenters stated that the preliminary risk evaluation and the summary of site risks are exaggerated, unrealistic and misleading. Issues raised by commenters include the assumption that contaminants are uniformly distributed through both the waste and soil overburden is unrealistic, there is no imminent risk when contaminants are covered by several feet of soil overburden, the amount of time a worker was assumed to be in contact with Pit 9 soil was excessive, the risk assessment does not reflect actual levels present at Pit 9, past risk assessments demonstrated acceptable risk, there are no confirmed releases at Pit 9, a baseline risk assessment is not in the public record, there is no justification for the predicted excess cancer risk, and the assessment does not state how calculations were done. Many commenters stated that the present risk does not justify performance of an interim action. One commenter stated that the baseline risk assessment is not in the Administrative Record.

Response: The *Preliminary Risk Evaluation for Pit 9* is prefaced by an acknowledgment that the computation of risk is very conservative and does not reflect present conditions at Pit 9. The risk evaluation, by conservatively anticipating possible exposure scenarios, is designed to encompass potential future risks rather than assuming that present risks will not change. The commenters correctly observe that the risk evaluation does not reflect present conditions, but a risk assessment which conservatively anticipates potential risks would necessarily assume conditions more conservative than those presently found onsite.

There need not be an imminent risk to justify the performance of an interim action. The NCP expresses a preference for early response action where the action will expedite the completion of total site cleanup. The definition of an interim action in the FFA/CO (drawn from the NCP) also states that an interim action is appropriate where the action expedites completion of total site cleanup. Since the interim action at Pit 9 will stabilize the site, prevent further degradation, and achieve risk reduction, the interim action advances the goal of expediting total site cleanup and thus is an appropriate response.

A baseline risk assessment, which is required for an RI/FS, is not in the Administrative Record. A remedial investigation is not a necessary element of an interim action. However, a baseline risk assessment will be performed as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS, which will include reevaluation of residual contamination from Pit 9 to ensure that the Pit 9 interim action is successful in reducing risk to levels protective of human health and the environment.

5.2 **Comment:** How were the cancer risks given in the original Proposed Plan determined? What do they mean to the average person and to the workers at the RWMC? Shouldn't the risk assessment also include consideration of the use of shielding, protective clothing, and respiratory protection by workers? Has the risk been evaluated for each of the alternatives?

Response: The industrial scenario assumptions used in the *Preliminary Risk Evaluation for Pit 9* were very conservative and do not reflect current conditions at Pit 9 today. There is not an exposure

pathway between Pit 9 contaminants to workers or members of the public at this time. However, the results of the risk evaluation provide direction for determining the types of protection required for a worker at Pit 9. Risk to a worker associated with each of the alternatives has not been individually evaluated.

The cancer risks listed in the original Proposed Plan involve three types of hypothetical, future site worker exposure scenarios: (1) inhalation of contaminated soil, (2) external exposure to radiation, and (3) ingestion of contaminated soil. The risk evaluation identified the radionuclides americium and plutonium as posing the greatest potential carcinogenic risk to a future site worker under these scenarios. Because risk evaluations of this type are based on very conservative assumptions, no credit for risk reduction has been taken for use of shielding and protective clothing. In this way, the risk assessment can be used to determine the level of protection necessary for the public, workers, and the environment.

5.3 Comment: Why did the risk assessment assume that all of the airborne particulate matter at RWMC originates at RWMC; isn't there a possibility that some of this material becomes airborne upwind of RWMC? Why not determine the concentration of particles originating upwind and subtract this quantity from the downwind value to determine the actual contribution of RWMC to the airborne particulate loading? If levels are really this high, why isn't an air permit necessary?

Response: The upwind concentration of airborne particles was considered insignificant compared to the contribution of particulate material arising from Pit 9 under the assumptions of the risk evaluation. This assumption errs on the side of conservatism and does not reflect actual conditions at the RWMC. Because this interim action will be carried out entirely on the INEL site in accordance with CERCLA Section 121, it is exempt from the administrative requirement of obtaining federal, state, or local permits. However, this interim action must satisfy all the substantive federal and state ARAR standards, requirements, criteria, or limitations which would have been included in any permit.

5.4 Comment: What are the technologies that may be used for processing materials removed from Pit 9? What are the expected effluent, processing wastes, and end products of these processes and what risks are associated with their storage and disposal?

Response: Two different treatment technologies for materials excavated from Pit 9 are listed as alternatives in the original Proposed Plan. These are ex-situ vitrification and chemical extraction and/or physical separation. Effluent resulting from the ex-situ vitrification process would be air particulates, volatile gases, and thermal melt residues. The particulates could contain radionuclides and/or products resulting from the incomplete burn (destruction) of organic contaminants in the waste. Control technologies such as engineered containment, the use of high efficiency particulate air (HEPA) filters, and carbon absorber beds can be used to capture flue gas stream particulates and volatile materials. The process melt residue would still contain radionuclides immobilized in a glassy matrix. The glassy matrix (containing ≤ 10 nCi/g TRU) would be returned to Pit 9 for disposal. Potential technologies under the chemical extraction and/or physical separation process include soil washing, wet or dry screening, flotation, gravity concentration, sedimentation, and filtration. The end products of this alternative must achieve approximately a 90% reduction in the volume of wastes. Material returned to Pit 9 would contain ≤ 10 nCi/g TRU radionuclides and would meet RCRA delisting and characteristic hazardous waste requirements. The concentrated treatment residuals are expected to contain either TRU waste or mixed waste (TRU-contaminated RCRA waste). The concentrated treatment residuals containing > 10 nCi/g TRU would be stored onsite until a permanent disposal facility is identified in the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS ROD.

5.5 Comment: If the stated risk to workers and the public truly exists, why have RWMC personnel been allowed to work on and about the surface of Pit 9 without protective equipment, and why haven't administrative controls, such as a fence or an asphalt cap, been used to reduce this risk?

Response: Ongoing institutional controls such as access restrictions and site condition monitoring are in effect at Pit 9. The assumptions of the industrial scenario used in the Pit 9 risk evaluation were very conservative and do not reflect actual conditions at Pit 9 today. There is no exposure pathway of Pit 9 contaminants to workers or the public at this time. The risk evaluation identified a pathway for Pit 9 contaminants to reach ground surface and the potential risk associated with those contaminants to a site worker.

5.6 *Comment:* A commenter requested documentation substantiating the statement in the original Proposed Plan that "Storage of the large quantity of packaged waste in Alternative 5 could potentially pose a radiological hazard to workers, community, and the environment" and the calculation of risks associated with the storage of waste for Alternative 5.

Response: The original Proposed Plan also noted, in part, that "A quantitative evaluation of risks to workers associated with implementation of the alternatives was not possible at this time because of the conceptual nature of the alternatives." Thus, no quantitative calculation of risks associated with storage of waste for Alternative 5 is currently available. However, under Alternative 5, all TRU-contaminated material would be excavated from the pit, which would require containerization and storage. This potentially involves greater radiological hazards due to increased handling and management of greater volumes of TRU-contaminated material than would be involved under the other alternatives.

6. Regulations and Roles of Government Agencies

6.1 *Comment:* When would the actions performed under Alternatives 3, 4, and 5 cease to be guided by CERCLA and become RCRA Waste Management activities?

Response: All of the remedial actions at the INEL, a federal facility site listed on the National Priorities List (NPL), are being undertaken pursuant to the CERCLA §120 FFA/CO and the enforceable schedules included in the Action Plan portion of that agreement. Those schedules show that it will take approximately 10 years to achieve RODs at all WAGs at the INEL. Actual remedial actions will take approximately an additional 20 years at the INEL site. The CERCLA and NCP process, which includes meeting or attaining the requirements of all federal and state ARARs (or qualifying for an ARARs waiver), remains in full force and effect for the duration of all cleanup activities, until the INEL is eventually removed by EPA from the NPL. Thus, actions under the Pit 9 alternatives would continue to be controlled by the CERCLA process. However, through the ARARs process, RCRA or State of Idaho Hazardous Waste Management Act (HWMA) requirements will apply or be considered relevant and appropriate and must be met for any of these alternatives.

6.2 *Comment:* On what basis, in terms of ARARs and the CERCLA evaluation criteria, will a treatability variance be granted to LDR waste constituents of Pit 9? Why are LDRs only being considered as potential ARARs?

Response: The treatment processes of Alternative 4 are expected to reduce the concentrations of RCRA listed wastes below risk-based delisting levels in accordance with 40 CFR §§260.20, .22 and meet characteristic hazardous waste standards of 40 CFR Part 261. Wastes meeting these standards exit the RCRA hazardous waste management system and LDRs and RCRA Subtitle C requirements are no longer applicable. Thus, a treatability variance is not necessary for Pit 9 wastes. If delisting levels cannot be met, the agencies will determine whether to issue an ESD, ROD amendment, or reevaluate Pit 9 as part of the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

Records for Pit 9 indicate RCRA-listed wastes that are also LDR restricted are present at the site, although they were deposited at Pit 9 prior to 1980 (and thus prior to the effective date for RCRA). For wastes that are expected to undergo treatment, LDR requirements are potentially applicable when the Pit 9 wastes are excavated and placed into a separate treatment unit. However, delisting is a compliance option for meeting LDR requirements (Superfund LDR Guide #1, *Overview of RCRA Land Disposal Restrictions* (OSWER Publication 9347.3-01FS, July 1989). Delisting requires a demonstration that the wastes meet risk-based levels and no longer present a threat to the public or the environment. In addition, the wastes would be treated to meet characteristic hazardous waste standards in accordance with 40 CFR 261 Subpart C. Wastes that meet delisting levels and characteristic hazardous waste standards exit the RCRA hazardous waste management system, and LDRs and RCRA Subtitle C requirements are no longer ARARs.

6.3 *Comment:* Commenters stated that there is no indication from information available in the repositories that other governmental agencies or authorities besides DOE were involved in reviewing and commenting on the Pit 9 cleanup original Proposed Plan, the RFP and related documents including contractor requirements for handling, transporting, and disposing of hazardous waste. The DOE and the other agencies would be better served to include more of the give-and-take information such as that included

in environmental permit application packets. The comments made by EPA and the State must be included in the public record; to do otherwise prevents public knowledge of any role that parties other than DOE have.

Response: This interim action has three project managers—one from the DOE, one from the EPA, and one from the State of Idaho. These project managers are responsible for the preparation of the original Proposed Plan and this document. All parties interested in reviewing and commenting on the original Proposed Plan had the opportunity to do so during the 60-day public comment period from December 13, 1991 to February 11, 1992. All comments submitted on the original Proposed Plan are documented in the Administrative Record. Review of draft comments by EPA and the State of Idaho is addressed in the FFA/CO (Part VIII, pg. 14-21). Formal comments are not required on the part of EPA and the State for secondary documents, which include Proposed Plans. Informal meetings with EPA and the State occur where DOE responds to oral questions and comments; however, these are not required to be the subject of a written response by DOE, nor are these comments required to be submitted by the regulatory Agencies in writing. To the extent that EPA or the State submits any written comments to DOE, these would be included in the Administrative Record.

6.4 Comment: What is the Project Manager's role? It is not described in any of the documents available.

Response: Section 4.0, "Project Management," in the Action Plan portion of the FFA/CO states in part, as provided in Part VII of the Agreement, each Party to the Agreement is represented by a Project Manager (see Appendix D). The Project Manager shall:

- Manage INEL remedial activities for their respective Agencies pursuant to the Agreement and Action Plan
- Serve as primary contacts and coordinators for their respective Agencies for purposes of implementing the Agreement and Action Plan
- Prioritize work
- Coordinate activities of WAG Managers, who are identified by the Project Managers, as necessary
- Evaluate and approve changes to an OU based on investigation findings, and
- Prepare monthly progress reports.

7. Public Involvement

7.1 Comment: Commenters stated that the public needs to have additional opportunities for input as the cleanup of Pit 9 progresses. Suggested public input opportunities include the test phases (Alternative 4) and the design phase of the remediation plan.

Response: The Agencies intend to keep the public updated on the status of activities occurring for the remediation of Pit 9. The results of the two test phases and the design for remediation will be documented in the Administrative Record and placed in the information repositories. Fact sheets will also be prepared and periodically issued by the Agencies in an effort to keep the public apprised of progress at Pit 9.

7.2 Comment: Will the public be involved in the design phase of the remediation plan?

Response: The public will be involved in the design phase of the remediation plan as specified in the Community Relations Plan. DOE plans to keep the public informed by publishing fact sheets that will detail the remedial design. Additionally, DOE is considering holding public informational meetings.

7.3 Comment: Why are comments and questions raised by the public during the informal question and answer (Q & A) phase of the meeting not specifically addressed by the Agencies in the Responsiveness Summary. Government Agencies have an obligation to listen and respond to citizens' concerns regardless in which phase of the public meeting they are raised. It appears that by not responding to the comments and questions raised during the informal Q & A period, important considerations which are raised by the citizenry are not specifically addressed by the Agencies.

Response: The Agencies jointly agreed on the public meeting format for Pit 9 based on input received from the public at other public meetings. The Agencies believe that providing an opportunity to first informally interact with agency representatives and receive immediate answers to questions helps the public formulate their comments to present in the formal comment portion of the meeting. This approach accommodates those members of the public who are more reluctant to have every statement they make part of the formal comment period. The meeting format was identified in published announcements and the public was informed at the beginning of the public meeting that the meeting would be divided into two parts—an informal question and answer session, where comments and questions could be immediately responded to by a panel of agency representatives, followed by the formal comment session recorded by a court reporter. The public was requested to provide their formal comments on the original Proposed Plan either during the formal comment session of the meeting or in writing prior to the close of the public comment period. A verbatim transcript of the entire public meeting has been prepared, reviewed by the Agencies, and placed in the Administrative Record. In addition, all written comments submitted during the public comment period have been reviewed and placed in the Administrative Record. While the questions or comments raised during the informal session of the public meeting are not included in this Responsiveness Summary, the Agencies believe that the meeting format represented a reasonable accommodation to different needs expressed by the public and provided ample opportunity to communicate formal concerns to the Agencies about the original Proposed Plan. This is reflected by the number of comments that were received and that are responded to in this Responsiveness Summary.

7.4 Comment: When the preferred alternative is actually developed, the Proposed Plan should be resubmitted for public comment from the broad community that INEL has traditionally sought to serve.

Response: During the review of comments on the Proposed Plan, the Agencies reassessed their initial determination that the preferred alternative provides the best balance of trade-offs, factored in new information and points of view, and revised the Proposed Plan to add a stabilization compared to the Preferred Alternative. Since this constituted a fundamental change from what was presented in the original Proposed Plan, the agencies issued a revised Proposed Plan and conducted a second set of public meetings. Meetings were held in five Idaho communities, and a second, 60-day public comment period was provided to allow further input on all aspects of the Proposed Plan, including the preferred alternative.

7.5 Comment: Commenters criticized the Agencies' efforts to obtain public review and acceptance of the Pit 9 cleanup plan. The Agencies should consider the degree to which avoiding the inconvenience of public participation contributed to the problems at Pit 9. In addition, only one public meeting was held on the original Proposed Plan for Pit 9, which involves substantially greater cost and complexity than the Proposed Plans for other cleanups such as the TRA Warm Waste Pond, which held two rounds of public meetings (first in five Idaho communities and then in three Idaho communities). Usually public meetings and hearings on INEL issues are held in at least three Idaho communities. Meetings should have been held at least in Pocatello, Twin Falls, and Boise, in addition to Idaho Falls. As a result, attempts to determine public acceptance of the Pit 9 preferred alternative are inadequate.

Response: The Agencies consider public participation to be an important element of the Pit 9 interim action decision process. As part of the response to comments received during the initial public comment period and public meeting conducted in Idaho Falls for the original Proposed Plan, a revised Proposed Plan was prepared and another round of public meetings with a second public comment period was provided. The second set of meetings was held in five Idaho locations. There is no established rule that public meetings must be held in a minimum of three Idaho communities, nor does the complexity or potential cost of the response action dictate the number or location of public meetings that will be conducted. The goal is to disseminate information as effectively as possible, reaching those most likely to be interested in the action. The public comment period is available to all interested parties and is widely

announced in media announcements across the state. The Agencies follow CERCLA and NCP requirements for public involvement, which require the lead agency to provide an opportunity for a public meeting at or near the site at issue [40 CFR §300.430(f)(3)]. The Agencies also refer to established policy and procedures developed for public participation during remedial response actions (for example, refer to EPA's *Community Relations in Superfund: A Handbook*, OSWER Dir. 9230.0-3D, January 1992, and DOE's *Public Participation in Environmental Restoration Activities*, DOE/EH-0221, Nov. 1991). The methods used to obtain public involvement on the Pit 9 interim action assisted the Agencies with determining the level of public acceptance of the Pit 9 preferred alternative, one of the nine evaluation criteria applied to the detailed analysis of alternatives. These methods were effective and are considered to be adequate in meeting the statutory and regulatory requirements.

7.6 Comment: The Agencies' track record in preparing Responsiveness Summaries shows that they sweep public comments into categories that are far too broad, and agency responses to these comments are far too general. This is contrary to previous agency commitments to "interactive" community involvement. The Agencies should ensure in this Responsiveness Summary that they respond to public comments fully and in detail.

Response: EPA has provided guidance on preparing responsiveness summaries in a document entitled *Community Relations in Superfund: A Handbook*, OSWER Directive 9230.0-3D, January 1992. This guidance states that a Responsiveness Summary should be a concise and complete summary of significant comments from the public and the agency's response to these comments. The Responsiveness Summary should include by way of summary categories references to all significant comments but should not be a point-by-point recitation of each comment. It should be simple, straightforward, and readable. As this guidance suggests, a Responsiveness Summary should provide complete answers which adequately address the community's concerns, but it is not intended to respond to every comment or provide a level of detail beyond the interest of the public at large. Every comment received is examined completely and carefully, and the commenter's concerns are captured in the summary of comments. Although each individual comment may not receive an individualized response, much effort is made to ensure the summary of comments accurately reflects the commenter's concerns and that the response properly addresses those concerns. This commitment to effective public participation has been an important element in the CERCLA process and will continue to be a significant element in the CERCLA process. In this Responsiveness Summary, an effort has been made to provide more detail in response to this concern; this effort will continue in future responsiveness summaries.

8. Pit 9 Cleanup Alternatives

8.1 General Questions on Alternatives

8.1.1 Comment: How were the remedial evaluation criteria quantified, particularly with regards to cost, and what method was used to evaluate the alternatives?

Response: The remedial evaluation criteria and methodology are listed in an EPA guidance documents entitled *Guidance on Preparing Superfund Decision Documents: The Proposed Plan, The Record of Decision, Explanation of Significant Differences*, Interim Final, EPA 540/G-89-007, July 1989, and *Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA*, Interim Final, EPA 540/G-89-004, October 1988. Technical professionals reviewed the technologies against the EPA criteria and, by applying their best engineering estimates, derived the alternative ranking presented in the Proposed Plan.

8.1.2 Comment: Why are Alternatives 2 and 3, the in-situ and ex-situ vitrification technologies, considered not so good in long-term effectiveness as Alternative 4, Chemical Extraction and/or Physical Separation, when Alternative 4 will only remove 90% of the contamination?

Response: Alternative 4 includes waste reduction through physical separation/chemical extraction before stabilizing the waste and, therefore, results in a smaller volume of residuals requiring long-term monitoring than under Alternatives 2 or 3 (or 5). In addition, the long-term protectiveness and permanence of Alternative 2 is not well defined at this time due to uncertainties and difficulty in evaluating the

effectiveness of ISV in the heterogeneous wastes found in Pit 9. Alternative 2 would require analysis of the treatment residuals in the pit to confirm complete vitrification of the pit contents and to evaluate long-term effectiveness and permanence. While Alternatives 3 and 4 both require additional demonstration testing, they would not require the extensive technology development that would be needed to implement Alternative 2 on the types of waste materials found in Pit 9. Alternative 4 offers better long-term effectiveness because it reduces the volume of hazardous waste by approximately 90%.

8.1.3 Comment: Why was Alternative 2, in-situ vitrification, which has been tested on INEL soils, eliminated for not having been proven on Pit 9 materials, when the chemical extraction subcontractor is to be selected based upon proven experience with INEL soil rather than Pit 9 materials?

Response: In-situ vitrification has been tested on simulated wastes contained within INEL soils. This process has not yet been commercially demonstrated for the types of waste contained within Pit 9. The additional research and development necessary to make this technology useful for the proposed application exceeds the enforceable deadline allowed by the FFA/CO. The subcontractor for Alternative 4 must propose a technology already proven to work on TRU wastes and then demonstrate that this process will work in the soils present at Pit 9.

8.1.4 Comment: Commenters requested consideration of other alternatives such as surface capping, encapsulation, cement mixing stabilization of waste, or an alternative calling for a delay in taking any action due to lack of an imminent threat to the public. Some commenters felt that a delay would also allow for the development of a waste storage repository, or technology and completion of test on Alternatives 2, 3, and 4 before making a decision on which alternative to use, if any.

Response: Comments noted. Other alternatives were considered and dismissed by the Agencies as not meeting the needs for the interim action. The Agencies determined the five alternatives evaluated as the best alternatives. Surface capping is not a permanent solution and therefore was not considered a viable alternative. Alternative 1 (No Action) represents a delay until the final action is decided for this site. A delay to allow the decay of radionuclides would have to be considered under the final action for this site.

Encapsulation is considered as a part of Alternative 3 (Ex-situ Vitrification). Under this alternative, hazardous material is vitrified in an electric furnace or kiln and the organic contaminants are incinerated. Incineration may be included in one of the proposals for Alternative 4 (Chemical Extraction/Physical Separation). However, incineration will not destroy the radionuclides in the waste.

8.1.5 Comment: Why did only Alternative 4 include the option of on-line characterization and physical separation as part of the remediation alternative? If this can be done with this alternative, it should also be able to be done with Alternatives 2 and 3.

Response: Alternative 2 would not involve exhumation of the waste so characterization and physical separation are not possible. Alternative 3 would include line characterization and physical separation to sort and size items in preparation for vitrification. However, these activities would not allow removal of americium and plutonium from the wastes.

8.1.6 Comment: Were all of the alternatives evaluated in detail by experts on each of the technologies before a decision was reached on the preferred alternatives.

Response: The remedial alternatives were evaluated by the technical staffs of the respective Agencies. The result of this process established the preferred alternative.

8.1.7 Comment: Doesn't the end result of the vitrification technologies provide significantly better long-term effectiveness and reduction of toxicity and mobility than Alternative 4? Vitrification technology itself destroys organic contaminants and encapsulates radionuclides and inorganic materials into a glass and crystalline form which is similar to basalt or obsidian, both of which exhibit extreme durability and leach resistance over geologic time periods.

Response: Alternative 2 would not reduce the levels of americium or plutonium in the pit. Vitrification technologies have not been demonstrated commercially successful on materials similar to those located within Pit 9. While long-term durability of vitrified materials is suspected, the process has not been

tested and proven durable and leach resistant over geologic time. Alternative 4 provides the best long-term effectiveness and permanence since the americium and plutonium would be reduced to ≤ 10 nCi/g.

8.1.8 Comment: The original Proposed Plan states that Alternatives 2 and 3 were partially rejected because they would not "destroy" the radioactive contaminants. None of the alternatives will "destroy" radioactive contaminants.

Response: Comment noted. Alternative 2 ranked lower than Alternative 4 because it: (1) left all of the radionuclides in the pit and (2) had not been proven commercially on materials similar to those located in Pit 9. Alternative 4 adds physical separation/chemical extraction to the stabilization treatment and, therefore, achieves a greater reduction in waste volume and toxicity before stabilization of the reduced waste stream. Alternative 4 also results in a smaller volume of treatment residuals. Alternatives 2 and 3 reduce toxicity, mobility, and volume, but to a lesser degree than Alternative 4.

8.1.9 Comment: The original Proposed Plan should be withdrawn and rewritten objectively. If this is not possible, Alternative 3 should be adapted as it is an internationally accepted form of long-term waste treatment, requires a minimum amount of research and development, and is the least wasteful of taxpayers' money.

Response: Alternative 3 ranked lower than Alternative 4 because it does not remove radionuclides from Pit 9 and has not been proven commercially on materials similar to those located in Pit 9. Also, Alternative 3 would require 3 to 5 years of research and development effort. Alternative 4 technologies are proven and currently available.

8.1.10 Comment: Some commenters suggested that radioactive particles which may become airborne during the Pit 9 remediation effort may not be efficiently filtered by the HEPA filters which will be used. One commenter requested documentation of HEPA filter efficiency for particle sizes of Plutonium and Americium for each step of each procedure.

Response: HEPA filters are devices used to remove particulates from air prior to exhausting the air to the environment. These filters are 99.97% efficient at removing 0.3-micron particles from air and are capable of removing particles as small as 0.001 microns. The manufacturing processes which produced the plutonium contamination in Pit 9 normally produced particles ranging in size from 0.1 to 10 microns, with <2% of the total particles being less than 0.1 micron in size. Since the efficiency of HEPA filters does not decline significantly with decreasing particle size, only a very small percentage of particles would pass through one filter. The system which will be used on Pit 9 will contain three HEPA filters in series, so the total system will remove virtually all airborne particles before they can escape the containment. The efficiency of this system will be demonstrated during Pit 9 test phases. HEPA filters are the industry standard and have been used for many years with a high degree of integrity and success.

8.1.11 Comment: A commenter noted that the evaluation criteria states that Alternative 5 does not meet the reduction in toxicity, mobility, etc., short-term effectiveness, and implementability. Alternative 4 does not meet the same criteria.

Response: Through treatment and removal of americium and plutonium, Alternative 4 meets the criteria of reduction of toxicity, mobility, or volume through treatment. It would reduce the volume of contaminated material and reduce the toxicity of treated wastes by removing and concentrating the contaminants which would then be put into storage for offsite disposal. The short-term effectiveness of Alternatives 4 and 5 appear to be about the same. Alternative 5 may be more difficult to implement than Alternative 4, because approximately 10 to 20 times more waste would be packaged and stored for offsite disposal under Alternative 5 than Alternative 4.

8.2 Alternative 1 - No Action

8.2.1 Comment: Commenters supported no action as the preferred or wisest course at this time due to the lack of imminent public health threat.

Response: The Agencies believe that the information available justifies proceeding with an interim action at Pit 9 now in order to stabilize the Pit 9 site and expedite overall site cleanup at RWMC.

Information learned during application of the selected technology(ies) will also support activities at other operable units within WAG 7 as well as the Comprehensive WAG 7 OU 7-14 RI/FS.

8.2.2 *Comment:* No action is not acceptable but the cleanup alternative that is selected needs to be effective and environmentally responsible rather than a quick cleanup.

Response: The Agencies agree that no action may result in unacceptable levels of risk. It is believed that Alternative 4 will provide an effective method of substantially and permanently reducing the risks associated with Pit 9 and attain stated remediation goals. The Pit 9 remedial action would consist of two test phases, the POP and LPT, each of which would have to be successfully completed to confirm treatment standards can be met and to identify the most cost-effective technique, or combination of techniques, that will be used for the interim action, before full-scale remediation of Pit 9 would be initiated. These test phases will ensure the Pit 9 interim action is conducted in a safe and environmentally responsible manner.

8.3 Alternative 2 - In-situ Vitrification

8.3.1 *Comment:* During the research work that has been performed already, is there a record of volatile organic compounds moving away from the melt zone in-situ vitrification?

Response: The transport of volatile and semivolatile contaminants away from the molten in-situ vitrification melt front is a complex phenomenon involving a large number of mechanisms. One of these mechanisms involves the vaporization and movement of volatile and semivolatile contaminants away from the melt front, until a soil zone is reached where the temperature is sufficient to cause condensation of the vapors. Copies of articles that address this topic will be placed in the information repositories for public review.

8.3.2 *Comment:* Can't vitrified material from this process be more safely removed, packaged, and disposed of than material in loose form?

Response: Assuming that Pit 9 materials and contaminants could undergo successful in-situ vitrification, the vitrified material to be removed from the pit, which contains americium and plutonium, would have to be cut into pieces prior to packaging, transportation, and disposal. This operation has not been demonstrated and contains the prospect that the operation would present as much or more risk than would packaging the material in loose form.

8.3.3 *Comment:* Why does the original Proposed Plan state that in-situ vitrification has not been demonstrated on waste types similar to the Pit 9 environment when intermediate scale tests on simulated buried wastes were conducted in FY-1990 at INEL?

Response: While the intermediate scale in-situ vitrification test at the INEL did employ simulated wastes contained in INEL soils, the test did not include americium and plutonium nor other materials such as metallic items and organics similar to those in Pit 9.

8.3.4 *Comment:* Why weren't the vendors of this technology (in-situ vitrification) allowed to perform characterization in order to design their off-gas system to handle the conditions found at Pit 9 and to determine the amount of physical separation needed for this technology to work?

Response: Alternative 2 proposes to vitrify in place without prior treatment, segregation, or exhumation. By remediating in place, Alternative 2 eliminates risks associated with excavation, classification, and treatment of the wastes in Pit 9. The vendors of this technology were not restricted in performing characterization and did not approach DOE with the concept that prior characterization was needed for Pit 9.

8.4 Alternative 3 - Ex-situ Vitrification

Comments on this alternative have been addressed in other sections of this document.

8.5 Alternative 4 - Chemical Extraction and/or Physical Separation

8.5.1 Comment: If material is returned to the pit, what is the nature and expected quantities of hazardous materials that may remain in this material after treatment?

Response: Under this alternative, contaminated material will be excavated from the pit and treated in order to concentrate the radioactive contaminants into 10% of the material excavated. The remaining 90% will be returned to the pit. The material returned to the pit must meet the following requirements: (a) it must contain ≤ 10 nCi/g TRU, (b) it must meet delisting levels specified in the Pit 9 ROD in accordance with RCRA substantive requirements (40 CFR §260.20 and §260.22) and EPA guidance [*A Guide to Delisting of RCRA Wastes for Superfund Remedial Responses*, (OSWER Pub. 9347.3-09FS, September 1990)], as well as characteristic hazardous waste standards (40 CFR 261 Subpart C), and (c) it must comply with all other federal and state ARARs identified in the Pit 9 ROD.

8.5.2 Comment: If either the POP or LPT fails, what is the planned action?

Response: If either the POP or LPT fails, the three agency Project Managers will determine whether issuance of an ESD or ROD amendment is appropriate; alternatively, the agencies can choose to start the selection of a new remedial alternative with a revised Proposed Plan and public comment period or they may delay Pit 9 evaluation until the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

8.5.3 Comment: Several of the commenters expressed their support of Alternative 4. Conditions of support of Alternative 4 were added by some commenters. For example, one commenter requested that the waste materials returned to the pit should be reasonably inert/inactive and stated that the alternative allows the opportunity to reuse, study, compare, and examine the practice of cleanup and reclamation to other sites at INEL. Another commenter suggested ex-situ vitrification of the separated materials to further reduce the leachability of the waste form.

Response: Comments noted.

8.5.4 Comment: How can you be sure that an ultimate disposal facility will be available for use by the time it is needed for this alternative?

Response: It is possible that a disposal facility will not be available when it is needed. However, we feel that this alternative offers the best remediation by removing the primary risk drivers, americium and plutonium, from Pit 9. Because the proposed action will be an interim action, final disposal of the wastes removed from Pit 9 can be delayed until a decision is provided by the ROD in the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS.

8.5.5 Comment: How is this remedial alternative consistent with the final remedial action?

Response: The material returned to the pit must meet the following requirements: (a) it must contain ≤ 10 nCi/g TRU, (b) it must meet delisting levels specified in the Pit 9 ROD in accordance with RCRA substantive requirements (40 CFR §260.20 and §260.22) and EPA guidance [*A Guide to Delisting of RCRA Wastes for Superfund Remedial Responses*, (OSWER Pub. 9347.3-09FS, September 1990)], as well as characteristic hazardous waste standards (40 CFR 261 Subpart C), and (c) it must comply with all other federal and state ARARs identified in the Pit 9 ROD. The agencies believe that these requirements make this alternative consistent with the final action because the listed waste residuals treated to risk-based delisting levels and meeting characteristic hazardous waste standards (i.e., shown to be nonhazardous waste), are thus no longer subject to disposal and closure requirements of RCRA Subtitle C. In addition, enough americium and plutonium will have been removed from the waste to lower the risk of cancer to below the target risk range identified in the NCP.

8.5.6 Comment: What commercial chemical extraction/physical separation processes have been demonstrated on materials similar to those found in Pit 9?

Response: Extraction/physical separation processes that have been demonstrated on materials similar to those found in Pit 9 are chemical extraction with mineral acid, chemical extraction with complexing agents, screening and classification, gravity concentration, and floatation.

8.5.7 Comment: Which RCRA-listed LDR waste types resulting from this cleanup are required to achieve BDAT requirements? Which LDR waste types are not?

Response: The LDR waste types that are anticipated to be encountered in Pit 9 wastes are lead, mercury, and some organic solvents. Wastes that are expected to undergo treatment would be excavated and placed into a separate treatment unit. In addition to meeting the ≤ 10 nCi/g TRU criterion, these wastes would be treated to risk-based delisting levels in accordance with 40 CFR §§260.20 and .22, and characteristic hazardous waste standards in accordance with 40 CFR 261 Subpart C before being returned to the pit. Wastes that meet delisting levels and characteristic hazardous waste standards exit the RCRA hazardous waste management system and LDRs and RCRA Subtitle C requirements are no longer ARARs.

8.5.8 Comment: Wouldn't Alternative 4 increase the danger of toxicity by concentrating the americium and plutonium and making these materials vulnerable to onsite transport accidents and airborne dispersion?

Response: Under Alternative 4, americium and plutonium would be concentrated, stored above ground surface, and monitored according to standards and procedures similar to those already in use at other storage facilities. Federal regulations concerning the transportation of TRU waste require a very high level of assurance that a transport accident would not involve a release of americium and plutonium.

8.5.9 Comment: The Evaluation of Alternatives table in the original Proposed Plan listed Alternative 4 as superior for long-term effectiveness particularly with regards to reductions in toxicity, mobility, or volume. Isn't this determination short-sighted in that it only considers the site itself and not subsequent transport, treatment, and disposal of the material in a more concentrated and hazardous form?

Response: The comparison inferred by this question is to either leave the contaminants in Pit 9 or remove them. Long-term effectiveness and permanence of a remedy is evaluated by analyzing the magnitude of residual risks and adequacy and reliability of controls. Alternative 4 is the best choice under these criteria as it provides high surety of risk reduction and excellent capabilities for containment monitoring and control during storage. The risk of transporting material elsewhere for disposal will be mitigated through engineering controls to acceptable levels of risk. It should be noted that when one considers reductions in toxicity, mobility, or volume, the analysis factors must appraise the amount of hazardous material destroyed or treated; the treatment process and remedy; reductions potentially achievable in toxicity, mobility, or volume; the irreversibility of treatment; the type and quantity of treatment residual; and the statutory preference for treatment. Alternative 4 is considered to be the best choice under these criteria.

8.5.10 Comment: Why not perform ex-situ vitrification of materials after separation and treatment to further reduce the leachability of the waste form?

Response: Remediation of Pit 9 could involve a combination of technologies. Ex-situ vitrification may be included as one of the process steps of Alternative 4. If it is part of a proposal, it will be evaluated against the same criteria as the other proposals. The evaluation and the selected technology(ies) for remediation are documented in the ROD for Pit 9.

8.5.11 Comment: Alternative 4 has the best potential for reducing the amount of radioactive waste for long-term storage. If plutonium and americium can be recovered and concentrated by calcination and concentration, then the remainder of the hazardous wastes from Pit 9 can be more economically handled by in-situ vitrification.

Response: The pit must be excavated and the materials treated in order to remove americium and plutonium. Current RCRA regulations require that treatment residuals cannot be returned to the pit unless these materials meet RCRA delisting criteria in established in accordance with 40 CFR §§260.20 and .22 and characteristic hazardous waste standards of 40 CFR Part 261. Once this material meets the RCRA requirements, the waste is considered nonhazardous and in-situ vitrification is unnecessary.

8.5.12 Comment: A commenter requested clarification of the percentage and volume of waste that may be returned to Pit 9 if Alternative 4 is selected. The commenter requested recalculation of the risks associated with the reburial rate based on this clarification.

Response: Approximately 90% of the total material excavated from the pit will be returned to the pit under Alternative 4. The comment concerning calculation of the risks associated with placing wastes containing 10 nCi/g TRU back into the pit is noted.

8.6 Alternative 5 - Complete Removal, Storage, and OffSite Disposal

8.6.1 *Comment:* Long-term storage and offsite disposal cost estimates for Alternative 5 are inflated since most of the non-TRU waste should be returned safely to Pit 9.

Response: The non-TRU hazardous wastes are legally prohibited from being returned to the pit unless the waste first meets RCRA delisting criteria and characteristic hazardous waste standards. Alternative 5 is specific in that it is a complete removal of all wastes from the pit, and nothing will go back into the pit. Implementation of Alternative 5 would still require treatment of collected materials to attain RCRA treatment standards and/or delisting criteria prior to disposal at any other location.

8.6.2 *Comment:* Alternative 5 was supported by commenters as an effective means to resolve the contamination problem at Pit 9 forever.

Response: Comment noted.

9. Funding, Budget, and Scheduling of Pit 9 Cleanup

9.1 *Comment:* Commenters requested that the public should be provided information on the methodology used to determine cost estimates for the alternatives. Particular interest was expressed in the cost estimated for excavation, long-term storage, disposal of wastes, and the need for a cost-benefit analysis of alternatives.

Response: The methodology used to establish cost estimates of alternatives will be placed in the information repositories and in the Administrative Record.

9.2 *Comment:* Why would excavation for Alternative 4 cost less than excavation for Alternative 5?

Response: Under Alternative 5, the whole pit will be excavated. Under Alternative 4, the pit would be characterized and selectively mined to remove only those materials contaminated with elevated levels of americium and plutonium. It is assumed that there are substantial areas of the pit that are not contaminated with plutonium or americium and would not need exhumation under Alternative 4.

9.3 *Comment:* Is there any possibility that funding for Pit 9 cleanup activities will be delayed?

Response: DOE has stated that funds are available for this project. However, as with all government monies, these funds are subject to congressional appropriations and oversight. This fact may potentially influence the availability of financial support for the Pit 9 project.

9.4 *Comment:* Has a cost benefit analysis been performed for each of the alternatives?

Response: A detailed cost benefit analysis is not required under CERCLA and was not performed for the alternatives. However, the costs associated with each alternative were evaluated using CERCLA requirements and EPA guidance.

9.5 *Comment:* Is information on the cost estimates and cost benefit analysis available to the public?

Response: Cost estimate information for the alternatives will be placed in the information repositories. A cost benefit analysis was not conducted on the alternatives.

9.6 *Comment:* Is funding available for the use of computer automation or robots in any of the alternatives or will cleanup be delayed until it can be done remotely?

Response: DOE is funding a robotics demonstration program. This group does not directly support the Pit 9 cleanup. The use of robotics technology in the Pit 9 interim action depends upon the remedial design submitted by the subcontractor. DOE does not plan to delay the cleanup of Pit 9 until it can be done by robotics.

9.7 *Comment:* How can the final costs of the cleanup be determined now when the final determination of the preferred alternative's technology has not been made?

Response: The final costs of the cleanup cannot be definitively established at this time. The costs are detailed in the original Proposed Plan and represent best engineering estimates based on conceptual design.

9.8 **Comment:** Are cost estimates provided for a "grave-to grave" solution for only contaminants of concern or do they include other wastes as well?

Response: The cost estimates provided in the original Proposed Plan are for a "grave-to-grave" solution only for the contaminants of concern.

9.9 **Comment:** The use of three to six significant figures for the cost estimates provides the false impression of greater knowledge of cost assumptions than actually exists. A range of costs should be provided for each alternative to provide the public with a meaningful cost comparison and an objective ranking.

Response: Comment noted. Cost estimates for Pit 9 will be refined as additional information becomes available.

9.10 **Comment:** Costs associated with cleanup should be the driving factor of selection of a cleanup alternative since the risks are either nonexistent or negligible.

Response: Cost is one of the criteria used to evaluate the appropriateness of remedial action alternatives. The Agencies feel that sufficient risk has been demonstrated to warrant an interim action.

10. Miscellaneous

10.1 **Comment:** Are there any requirements for the Pit 9 contractor to hire local people to do the work instead of bringing people from out of state, thereby causing a loss of economic support to the local communities? How can people from out of state, who are not familiar with conditions at INEL, have the necessary skills and knowledge to do this work?

Response: There are no requirements for the contractor awarded the Pit 9 work to hire local people. It is the contractor's business prerogative to decide whether workers employed by their company will be acquired locally or from out of state sources. The subcontractor will be responsible to provide employees qualified to do the work.

10.2 **Comment:** Is a standard reference document available for terminology, definitions, and acronyms used by DOE and INEL?

Response: A list of INEL Acronyms has been published by EG&G Idaho. This document will be placed in the information repositories. A standard reference document of definitions and terminology used by DOE and INEL does not exist.

10.3 **Comment:** A commenter questioned how energy conservation is being addressed in the cleanup technology designs and if solar technology is being considered for incineration?

Response: Energy conservation is partially addressed through the cost effectiveness of the remedial alternative. Energy conservation is expressly considered in the remedial design phase. Solar technology would be considered if contractors included that technology in their proposal for Alternative 4.

10.4 **Comment:** Are there any documents available to the public which summarize test information on technology demonstrations performed on Pit 9 materials?

Response: No technology demonstrations have been performed on material from Pit 9.

10.5 **Comment:** Several commenters requested an extension of the time limit for public comment on the original Proposed Plan.

Response: The public comment period was extended another 30 days in response to these requests.

10.6 **Comment:** Some comments noted that the Proposed Plan failed to identify the performance of a Natural Resource Damage Assessment (NRDA) under 43 CFR Part 11, or how natural resource damages

had been resolved. These comments asked for (a) an explanation of how the proposed remedy for Pit 9 was consistent with any NRDA performed for the RWMC or Pit 9; (b) the identity of the natural resource trustees for INEL and WAG 7; and (c) where, when, and from whom the public could obtain information about natural resource damage assessment reports.

Response: DOE has a dual role with respect to the cleanup actions taking place at the INEL. Under the NCP, DOE is the lead agency for conducting the actual cleanup; under NRDA regulations, DOE is the primary Federal Trustee at the INEL and is responsible for notifying potential trustees of the cleanup actions at INEL. The State of Idaho also plays a dual role for the cleanup actions taking place at the INEL, and specifically at WAG 7 which includes Pit 9. Under the FFA/CO, the State is the lead regulatory agency for overseeing cleanup at Pit 9 and all of WAG 7; under the NRDA regulations, the State is a trustee responsible for protection of state resources at the INEL and would be involved in conducting an NRDA. DOE has already contacted various agencies with respect to potential co-trustee NRDA responsibilities at the INEL. These agencies include the Regional Environmental Officer for the U.S. Dept. of Interior, the U.S. Fish & Wildlife Service, The National Park Service, U.S. Bureau of Land Management, USGS, the Bureau of Indian Affairs, the State of Idaho, and the Shoshone-Bannock Indian Tribe. Interactions between DOE and other trustees will be documented in the Administrative Record.

The NRDA regulations provide for a preassessment screen to determine whether a more detailed NRDA is necessary (43 CFR §11.25). These regulations also allow, and DOE has issued guidance encouraging the use of, the CERCLA ecological risk assessment process in combination with the preassessment screen of the NRDA regulations to avoid duplication of effort (DOE/EH-0192, June 1991). If natural resource trustees determine, based on the preassessment screen, that a more detailed NRDA is appropriate, they would then initiate preparation of an assessment plan and make an injury determination before any actual damages (i.e., dollar value) are calculated. Much of the information developed during the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS or the Comprehensive WAG 7 OU 7-14 RI/FS may be used by the trustees to satisfy this assessment. At the conclusion of the assessment, the trustees will prepare an assessment report which describes the preassessment screen and all comments and responses that are made. This report would be made available to the public.

The Pit 9 interim action original and revised Proposed Plans included consideration of qualitative ecological risks. A more detailed NRDA for Pit 9 has not yet been conducted. However, part of the State's responsibilities under its dual role at Pit 9 and the rest of WAG 7 is to resolve actions in favor of both cleanup as well as protection of natural resources. The CERCLA process can be useful in developing the information necessary to support the preassessment screen requirements, which could be shared with the various trustees. This would occur when the baseline risk assessment for the TRU-Contaminated Pits and Trenches OU 7-13 RI/FS and/or the Comprehensive WAG 7 OU 7-14 RI/FS is prepared [40 CFR §300.430(b)(7), (d)-(e); see also, 40 CFR Subpart G, §300.600-615]. This baseline risk assessment includes the ecological assessment and is equivalent to the preassessment screen. It is at this stage that trustees will be in a better position to evaluate whether there are "residual damages" that warrant a more detailed damage assessment. The Pit 9 interim action does not present inconsistency problems with the eventual preassessment screen or NRDA, because part of the purpose of the NRDA process is to evaluate the extent to which residual damages to natural resources have not been cured by the actions already taken.